# NEW SOURCE CONSTRUCTION PERMIT
# and MINOR SOURCE OPERATING PERMIT
# OFFICE OF AIR MANAGEMENT

## Dutchmen Manufacturing, Inc.
## 305 Steury Avenue
## Goshen, Indiana 46526

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

This permit is also issued under the provisions of 326 IAC 2-2, 40 CFR 52.21, and 40 CFR 52.124 (Prevention of Significant Deterioration), with conditions listed on the attached pages.

This permit is also issued under the provisions of 326 IAC 2-3 (Emission Offset), with conditions listed on the attached pages

| Operation Permit No.: MSOP 039-11784-00380 | |
|---|---|
| Issued by:<br>Paul Dubenetzky, Branch Chief<br>Office of Air Management | Issuance Date: |

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## SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

### A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary travel trailer manufacturing source.

| | |
|---|---|
| Authorized Individual: | Richard W. Florea |
| Source Address: | 305 Steury Avenue, Goshen, Indiana 46526 |
| Mailing Address: | 305 Steury Avenue, Goshen, Indiana 46526 |
| Phone Number: | 219 - 534 - 1224 |
| SIC Code: | 3792 |
| County Location: | Elkhart |
| County Status: | Attainment for all criteria pollutants |
| Source Status: | Minor Source Operating Permit<br>Minor Source, under PSD Rules;<br>Minor Source, Section 112 of the Clean Air Act |

### A.2 Emissions Units and Pollution Control Equipment Summary

This stationary source is approved to operate the following emissions units and pollution control devices:

**Assembly Building**

(a) Woodworking operations consist of: three (3) band saws, one (1) chop saw, one (1) drill press, three (3) grinder benches, eighteen (18) mitre saws, one (1) double mitre saw, three (3) radial arm saws, two (2) routers, three (3) table saws and one (1) belt sander.

Chassis Frame with Floor Preparation

(b) One (1) woodworking and surface coating operation, equipped with a cyclone, P1, exhausting through vents V1 and V2, throughput: 1,125 pounds of preassembled frames per hour, 126 pounds of plywood per hour and 144 pounds of panelboard per hour, capacity: 1.2 travel trailers per hour.

Cabinets and Mill

(c) One (1) woodworking and surface coating operation, equipped with two (2) cyclones, known as P1 and P2, exhausting through vents V1 and V2, throughput: 154.8 pounds of wood per hour, 626.4 pounds of panelboard per hour, 43.2 pounds of plywood per hour, and 216 pounds of stiles per hour, capacity: 1.2 travel trailers per hour.

Slide-Out Assembly and Installation

(d) One (1) woodworking and surface coating operation, equipped with two (2) cyclones, known as P1 and P2, exhausting through vents V1 and V2, throughput: 28.8 pounds of Luan per hour, 356.4 pounds of wood per hour, 82.8 pounds of panelboard per hour and 28.8 pounds

of plywood per hour, capacity: 1.2 travel trailers per hour.

Prefinished Travel Trailers (Unit Assembly) Operation

(e) One (1) woodworking and surface coating operation, equipped with two (2) cyclones, known as P1 and P2, exhausting through vents V1 and V2, throughput: 432 pounds of wood per hour, 82.8 pounds of panelboard per hour and 126 pounds of plywood per hour, capacity: 1.2 travel trailers per hour.

**Final Finish Building**

Finished Travel Trailers

(f) One (1) woodworking and surface coating operation, equipped with a cyclone, known as P3, and one (1) stand-by baghouse, known as P4, exhausting through vents V3 through V5, throughput: 18.0 pounds of wood per hour and 9.0 pounds of panelboard per hour, capacity: 1.2 travel trailers per hour.

(g) Woodworking operations consist of: one (1) chop saw and (1) radial arm saw.

Welding

(h) One (1) MIG welding station, capacity: .354 pounds of wire per hour.

(i) Two (2) stick welding stations, capacity: 1.0 and 7.0 electrodes per hour.

(j) One (1) oxyacetylene flame cutting station, capacity: 0.167 inches per minute at a thickness of 0.375 inches.

**Stick and Tin Assembly Building**

(k) Six (6) radiant heaters, known as H1 through H5, H13, rated at 0.150 million British thermal units per hour each, exhausting through stacks H1 - H5 and H13 (formally known as H-14).

(l) Three (3) space heaters, known as H6 through H8, rated at 0.100 million British thermal units per hour each, exhausting through stacks H6 - H8.

(m) Four (4) space heaters, known as H9 through H12, rated at 0.225 million British thermal units per hour each, exhausting through stacks H9 - H11.

(n) Seven (7) space heaters, known as H14 through H20 (formally known as H1 - H7), rated at 0.100 million British thermal units per hour each, exhausting through stacks H14 through H20.

(o) Seven (7) space heaters, known as H21 through H27 (formally known as H8 - H14), rated at 0.225 million British thermal units per hour each, exhausting through stacks H21 - H27.

(p) Two (2) radiant heaters, known as H28 and H29 (formerly known as H15 and H16), rated at 0.150 million British thermal units per hour each, exhausting through stacks H28 and H29.

(q) One (1) inside tote, installed in 1993, capacity: 330 gallons of adhesive.

(r) One (1) inside above ground storage tank, capacity: 250 gallons of hydraulic oil.

(s) One (1) outside above ground storage tank, installed in 1991, capacity: 250 gallons of diesel fuel.

(t) Two (2) outside above ground storage tanks, installed in 1991, capacity: 300 gallons of unleaded gasoline each.

**SECTION B GENERAL CONSTRUCTION CONDITIONS**

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Modification to Permit [326 IAC 2]

Notwithstanding the Section B condition entitled “Minor Source Operating Permit”, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.6 Minor Source Operating Permit [326 IAC 2-6.1]

This document shall also become a minor source operating permit pursuant to 326 IAC 2-6.1 when, prior to start of operation, the following requirements are met:

(a) The attached Affidavit of Construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section.

(1) If the Affidavit of Construction verifies that the facilities covered in this Construction Permit were constructed as proposed in the application, then the facilities may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.

(2) If the Affidavit of Construction does not verify that the facilities covered in this Construction Permit were constructed as proposed in the application, then the Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section prior to beginning operation of the facilities.

(b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

(c) Upon receipt of the Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section, the Permittee shall attach it to this document.

(d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).

(e) Pursuant to 326 IAC 2-6.1-7, the Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date established in the validation letter. If IDEM, OAM, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied. The operation permit issued shall contain as a minimum the conditions in Section C and Section D of this permit.

## SECTION C SOURCE OPERATION CONDITIONS

Entire Source

C.1 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]

(a) The total source potential to emit of all criteria pollutants is less than 250 tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.

(b) Any change or modification which may increase potential to emit to 250 tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAM prior to making the change.

C.2 Preventive Maintenance Plan [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

(b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

(a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.

(c) The Permittee shall notify the OAM within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

C.4 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAM, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)]:

(a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAM, Permits Branch, within thirty (30) days of the change.

(b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).

(c) IDEM, OAM, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.6 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

(a) Violation of any conditions of this permit.

(b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.

(c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.

(d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.

(e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.7 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

C.8 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

**Testing Requirements**

C.9 Performance Testing [326 IAC 3-6] [326 IAC 2-1.1-11]

(a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

(b) All test reports must be received by IDEM, OAM, within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAM, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the “authorized individual” as defined by 326 IAC 2-1.1-1.

**Compliance Monitoring Requirements**

C.10 Monitoring Methods [326 IAC 3]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.11 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:

(1) This condition;

(2) The Compliance Determination Requirements in Section D of this permit;

(3) The Compliance Monitoring Requirements in Section D of this permit;

(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of:

(A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and

(B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.

(b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.

(c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has

not been denied or;

(3) An automatic measurement was taken when the process was not operating; or

(4) The process has already returned to operating within "normal" parameters and no response steps are required.

(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken.

C.12 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

(a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.

(b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

(c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a) (1) through (6).

(d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.13 Annual Emission Statement [326 IAC 2-6]

(a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by April 15 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:

(1) Indicate actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);

(2) Indicate actual emissions of other regulated pollutants from the source, for purposes of Part 70 fee assessment.

(b) The annual emission statement covers the twelve (12) consecutive month time period starting December 1 and ending November 30. The annual emission statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.14 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

(a) With the exception of performance tests conducted in accordance with Section C- Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.

(b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.

(c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.

(d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.

(e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.

(f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected emissions unit while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected emissions unit.

The documents submitted pursuant to this condition do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

**Record Keeping and Reporting Requirements**

C.16 General Record Keeping Requirements [326 IAC 2-6.1-2]

(a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Records of required monitoring information shall include, where applicable:

(1) The date, place, and time of sampling or measurements;

(2) The dates analyses were performed;

(3) The company or entity performing the analyses;

(4) The analytic techniques or methods used;

(5) The results of such analyses; and

(6) The operating conditions existing at the time of sampling or measurement.

(c) Support information shall include, where applicable:

(1) Copies of all reports required by this permit;

(2) All original strip chart recordings for continuous monitoring instrumentation;

(3) All calibration and maintenance records;

(4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

(d) All record keeping requirements not already legally required shall be implemented when operation begins.

C.17 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

(a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Semi-Annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

(d) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:

(1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or

(2) A malfunction as described in 326 IAC 1-6-2; or

(3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.

(4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.

(f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.

(g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

C.18 Annual Notification [326 IAC 2-6.1-5(a)(5)]

(a) Annual notification shall be submitted to the Office of Air Management stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.

(b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.

(c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Data Section, Office of Air Management
Indiana Department of Environmental Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

(d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

**SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS**

**Emissions Unit Description:**

**Assembly Building**

(a) Woodworking operations consist of: three (3) band saws, one (1) chop saw, one (1) drill press, three (3) grinder benches, eighteen (18) mitre saws, one (1) double mitre saw, three (3) radial arm saws, two (2) routers, three (3) table saws and one (1) belt sander.

Chassis Frame with Floor Preparation

(b) One (1) woodworking and surface coating operation, equipped with a cyclone, P1, exhausting through vents V1 and V2, throughput: 1,125 pounds of preassembled frames per hour, 126 pounds of plywood per hour and 144 pounds of panelboard per hour, capacity: 1.2 travel trailers per hour.

Cabinets and Mill

(c) One (1) woodworking and surface coating operation, equipped with two (2) cyclones, known as P1 and P2, exhausting through vents V1 and V2, throughput: 154.8 pounds of wood per hour, 626.4 pounds of panelboard per hour, 43.2 pounds of plywood per hour, and 216 pounds of stiles per hour, capacity: 1.2 travel trailers per hour.

Slide-Out Assembly and Installation

(d) One (1) woodworking and surface coating operation, equipped with two (2) cyclones, known as P1 and P2, exhausting through vents V1 and V2, throughput: 28.8 pounds of Luan per hour, 356.4 pounds of wood per hour, 82.8 pounds of panelboard per hour and 28.8 pounds of plywood per hour, capacity: 1.2 travel trailers per hour.

Prefinished Travel Trailers (Unit Assembly) Operation

(e) One (1) woodworking and surface coating operation, equipped with two (2) cyclones, known as P1 and P2, exhausting through vents V1 and V2, throughput: 432 pounds of wood per hour, 82.8 pounds of panelboard per hour and 126 pounds of plywood per hour, capacity: 1.2 travel trailers per hour.

**Final Finish Building**

Finished Travel Trailers

(f) One (1) woodworking and surface coating operation, equipped with a cyclone, known as P3, and one (1) stand-by baghouse, known as P4, exhausting through vents V3 through V5, throughput: 18.0 pounds of wood per hour and 9.0 pounds of panelboard per hour, capacity: 1.2 travel trailers per hour.

(g) Woodworking operations consist of: one (1) chop saw and (1) radial arm saw.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-6.1-5(1)]**

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]

Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to wood furniture and cabinets shall utilize one of the following application methods:

Airless Spray Application
Air Assisted Airless Spray Application
Electrostatic Spray Application
Electrostatic Bell or Disc Application
Heated Airless Spray Application
Roller Coating
Brush or Wipe Application
Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

D.1.2 New facilities: general reduction requirements [326 IAC 8-1-6]

Any change or modification which would increase the potential to emit VOC from coating plastic, carpet, PVC and glass substrates to twenty-five (25) tons per year or more, shall obtain prior approval from IDEM, OAM and shall be subject to the requirements of 326 IAC 8-1-6.

D.1.3 Miscellaneous metal coating operations [326 IAC 8-2-9]

Any change or modification which would increase the potential to emit VOC from coating metal in the chassis and floor, unit assembly and the final finish facilities to fifteen (15) pounds per day or more in any of these facilities, shall obtain prior approval from IDEM, OAM and shall be subject to the requirements of 326 IAC 8-2-9.

D.1.4 Particulate Matter (PM) [326 IAC 6-3-2(c)]

(a) The PM from the surface coating operations shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

(b) Woodworking

(1) Cyclones

The PM from the woodworking operations associated with cyclones P1, P2 and P3 shall not exceed 2.95, 2.95 and 0.551 pounds per hour, respectively, when operating at process weight rates of 1,224, 1,224 and less than 100 pounds per hour.

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

(2) Back-up Baghouse

The back-up baghouse, known as P4, shall meet the allowable PM emission limit calculated with the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour, and
P = process weight rate in tons per hour.

**Compliance Determination Requirements [326 IAC 2-1.1-11]**

D.1.5 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limits specified in Condition D.1.4 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.6 Particulate Matter (PM)

The cyclones, known as P1, P2 and P3 or the back-up baghouse, known as P4, for PM control shall be in operation at all times when the woodworking facilities are in operation.

**Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

D.1.7 Visible Emissions Notations

(a) Daily visible emission notations of the cyclones and/or back-up baghouse stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.1.8 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the woodworking operation when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.1.9 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.1.10 Failure Detection

In the event that bag failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.1.11 Cyclone Inspections

An inspection shall be performed each calender quarter of all cyclones controlling the woodworking operation when venting to the atmosphere. A cyclone inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors.

D.1.12 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

**Record Keeping and Reporting Requirement [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

D.1.13 Record Keeping Requirements

(a) To document compliance with Condition D.1.7, the Permittee shall maintain records of daily visible emission notations of the cyclones and/or back-up baghouse stack exhaust.

(b) To document compliance with Conditions D.1.8 and D.1.11, the Permittee shall maintain records of the results of the inspections required under Conditions D.1.8 and D.1.11 and the dates the vents are redirected.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS**

**Emissions Unit Description:**

**Final Finish Building**

Welding

(h) One (1) MIG welding station, capacity: .354 pounds of wire per hour.

(i) Two (2) stick welding stations, capacity: 1.0 and 7.0 electrodes per hour.

(j) One (1) oxyacetylene flame cutting station, capacity: 0.167 inches per minute at a thickness of 0.375 inches.

**Stick and Tin Assembly Building**

(k) Six (6) radiant heaters, known as H1 through H5, H13, rated at 0.150 million British thermal units per hour each, exhausting through stacks H1 - H5 and H13 (formally known as H-14).

(l) Three (3) space heaters, known as H6 through H8, rated at 0.100 million British thermal units per hour each, exhausting through stacks H6 - H8.

(m) Four (4) space heaters, known as H9 through H12, rated at 0.225 million British thermal units per hour each, exhausting through stacks H9 - H11.

(n) Seven (7) space heaters, known as H14 through H20 (formally known as H1 - H7), rated at 0.100 million British thermal units per hour each, exhausting through stacks H14 through H20.

(o) Seven (7) space heaters, known as H21 through H27 (formally known as H8 - H14), rated at 0.225 million British thermal units per hour each, exhausting through stacks H21 - H27.

(p) Two (2) radiant heaters, known as H28 and H29 (formerly known as H15 and H16), rated at 0.150 million British thermal units per hour each, exhausting through stacks H28 and H29.

(q) One (1) inside tote, installed in 1993, capacity: 330 gallons of adhesive.

(r) One (1) inside above ground storage tank, capacity: 250 gallons of hydraulic oil.

(s) One (1) outside above ground storage tank, installed in 1991, capacity: 250 gallons of diesel fuel.

(t) Two (2) outside above ground storage tanks, installed in 1991, capacity: 300 gallons of unleaded gasoline each.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-6.1-5(1)]**

D.2.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the welding operations shall not exceed allowable PM emission rate based on the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

**Compliance Determination Requirement [326 IAC 2-1.1-11]**

D.2.2 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limits specified in Condition D.3.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

## MALFUNCTION REPORT

### INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
### OFFICE OF AIR MANAGEMENT
**FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES ?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100 TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: _____ PHONE NO. :_____
LOCATION: (CITY AND COUNTY) _____
PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP: _____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: _____/_____/ 20_____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE_____/_____/ 20____ _____ AM / PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____
INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

**Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.**

**326 IAC 1-6-1 Applicability of rule**

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

**326 IAC 1-2-39 "Malfunction" definition**

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

*** Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

_____

_____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**
**OFFICE OF AIR MANAGEMENT**
**COMPLIANCE DATA SECTION**

**MINOR SOURCE OPERATING PERMIT**
**ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

| | |
|---|---|
| **Company Name:** | **Dutchmen Manufacturing, Inc.** |
| **Address:** | **305 Steury Avenue** |
| **City:** | **Goshen, Indiana 46526** |
| **Phone #:** | **219 - 534 - 1224** |
| **MSOP #:** | **039-11784-00380** |

I hereby certify that source is **9** still in operation.
**9** no longer in operation.

I hereby certify that source is **9** in compliance with the requirements of MSOP **039-11784-00380**.
**9** not in compliance with the requirements of MSOP **039-11784-00380**.

| |
|---|
| **Authorized Individual (typed):** |
| **Title:** |
| **Signature:** |
| **Date:** |

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

| |
|---|
| **Noncompliance:** |
| |
| |
| |
| |
| |

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR MANAGEMENT
## COMPLIANCE DATA SECTION

### MINOR SOURCE OPERATING PERMIT
### SEMI-ANNUAL COMPLIANCE MONITORING REPORT

Source Name: Dutchmen Manufacturing, Inc.
Source Address: 305 Steury Avenue, Goshen, Indiana 46526
Mailing Address: 305 Steury Avenue, Goshen, Indiana 46526
MSOP No.: 039-11784-00380

Months: _____ to _____ Year: _____

This report is an affirmation that the source has met all the compliance monitoring requirements stated in this permit. This report shall be submitted semi-annually. Any deviation from the compliance monitoring requirements and the date(s) of each deviation must be reported. Additional pages may be attached if necessary. This form can be supplemented by attaching the Emergency/Deviation Occurrence Report. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

**9** NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

**9** THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD.

| Compliance Monitoring Requirement (e.g. Permit Condition D.1.3) | Number of Deviations | Date of each Deviation |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

# Indiana Department of Environmental Management
# Office of Air Management

## Technical Support Document (TSD) for a New Source Construction and Minor Source Operating Permit

**Source Background and Description**

| | |
|---|---|
| **Source Name:** | **Dutchmen Manufacturing, Inc.** |
| **Source Location:** | **305 Steury Avenue, Goshen, Indiana 46526** |
| **County:** | **Elkhart** |
| **SIC Code:** | **3792** |
| **Operation Permit No.:** | **MSOP 039-11784-00380** |
| **Permit Reviewer:** | **Mark L. Kramer** |

The Office of Air Management (OAM) has reviewed an application from Dutchmen Manufacturing, Inc. relating to the construction and operation of a travel trailer manufacturing source.

**Permitted Emission Units and Pollution Control Equipment**

The source consists of the following permitted emission units and pollution control device with unspecified changes in materials used for surface coating:

**Assembly Building**

(a) Woodworking operations consist of: three (3) band saws, one (1) chop saw, one (1) drill press, three (3) grinder benches, eighteen (18) mitre saws, one (1) double mitre saw, three (3) radial arm saws, two (2) routers, three (3) table saws and one (1) belt sander.

Chassis Frame with Floor Preparation

(b) One (1) woodworking and surface coating operation, equipped with a cyclone, P1, exhausting through vents V1 and V2, throughput: 1,125 pounds of preassembled frames per hour, 126 pounds of plywood per hour and 144 pounds of panelboard per hour, capacity: 1.2 travel trailers per hour.

Cabinets and Mill

(c) One (1) woodworking and surface coating operation, equipped with two (2) cyclones, known as P1 and P2, exhausting through vents V1 and V2, throughput: 154.8 pounds of wood per hour, 626.4 pounds of panelboard per hour, 43.2 pounds of plywood per hour, and 216 pounds of stiles per hour, capacity: 1.2 travel trailers per hour.

Slide-Out Assembly and Installation

(d) One (1) woodworking and surface coating operation, equipped with two (2) cyclones, known as P1 and P2, exhausting through vents V1 and V2, throughput: 28.8 pounds of Luan per

hour, 356.4 pounds of wood per hour, 82.8 pounds of panelboard per hour and 28.8 pounds of plywood per hour, capacity: 1.2 travel trailers per hour.

Prefinished Travel Trailers (Unit Assembly) Operation

(e) One (1) woodworking and surface coating operation, equipped with two (2) cyclones, known as P1 and P2, exhausting through vents V1 and V2, throughput: 432 pounds of wood per hour, 82.8 pounds of panelboard per hour and 126 pounds of plywood per hour, capacity: 1.2 travel trailers per hour.

**Final Finish Building**

Finished Travel Trailers

(f) One (1) woodworking and surface coating operation, equipped with a cyclone, known as P3, and one (1) stand-by baghouse, known as P4, exhausting through vents V3 through V5, throughput: 18.0 pounds of wood per hour and 9.0 pounds of panelboard per hour, capacity: 1.2 travel trailers per hour.

(g) Woodworking operations consist of: one (1) chop saw and (1) radial arm saw.

Welding

(h) One (1) MIG welding station, capacity: .354 pounds of wire per hour.

(i) Two (2) stick welding stations, capacity: 1.0 and 7.0 electrodes per hour.

(j) One (1) oxyacetylene flame cutting station, capacity: 0.167 inches per minute at a thickness of 0.375 inches.

**Stick and Tin Assembly Building**

(k) Six (6) radiant heaters, known as H1 through H5, H13, rated at 0.150 million British thermal units per hour each, exhausting through stacks H1 - H5 and H13 (formally known as H-14).

(l) Three (3) space heaters, known as H6 through H8, rated at 0.100 million British thermal units per hour each, exhausting through stacks H6 - H8.

(m) Four (4) space heaters, known as H9 through H12, rated at 0.225 million British thermal units per hour each, exhausting through stacks H9 - H11.

(n) Seven (7) space heaters, known as H14 through H20 (formally known as H1 - H7), rated at 0.100 million British thermal units per hour each, exhausting through stacks H14 through H20.

(o) Seven (7) space heaters, known as H21 through H27 (formally known as H8 - H14), rated at 0.225 million British thermal units per hour each, exhausting through stacks H21 - H27.

(p) Two (2) radiant heaters, known as H28 and H29 (formerly known as H15 and H16), rated at 0.150 million British thermal units per hour each, exhausting through stacks H28 and H29.

**Unpermitted Emission Units and Pollution Control Equipment**

The source also consists of the following unpermitted facilities/units:

**Stick and Tin Assembly Building** (Relocated from Maple City Plant)

(q) One (1) inside tote, installed in 1993, capacity: 330 gallons of adhesive.

(r) One (1) inside above ground storage tank, capacity: 250 gallons of hydraulic oil.

(s) One (1) outside above ground storage tank, installed in 1991, capacity: 250 gallons of diesel fuel.

(t) Two (2) outside above ground storage tanks, installed in 1991, capacity: 300 gallons of unleaded gasoline each.

**New Emission Units and Pollution Control Equipment**

There are no new facilities proposed at this source during this review process.

**Existing Approvals**

The source has been operating under previous approvals including, but not limited to, the following:

CP 039-5544-00380, issued September 23, 1996.

All conditions from previous approvals were incorporated into this permit.

**Stack Summary**

| Stack ID | Operation | Height (feet) | Diameter (feet) | Flow Rate (acfm) | Temperature (EF) |
|---|---|---|---|---|---|
| H1 - H5 | heaters | 22 | 0.25 | 500 | 200 |
| H6 - H8 | heaters | 22 | 0.83 | 500 | 150 |
| H9 - H11 | heaters | 22 | 0.83 | 500 | 235 |
| H13 | heater | 22 | 0.50 | 500 | 200 |
| H14 - H20 | heaters | 17 | 0.83 | 500 | 175 |
| H21 - H27 | heaters | 17 | 0.83 | 500 | 235 |
| H28 & H29 | heaters | 17 | 0.83 | 500 | 200 |
| V1 & V2 | surface coating | 21 | 1.95 | - | ambient |
| V3 - V5 | surface coating | 20 | 1.95 | - | ambient |
| P1 | cyclone | 20 | 0.83 | 2,000 | ambient |
| P2 | cyclone | 20 | 2.17 | 3,900 | ambient |
| P3 | cyclone | 12 | 2.17 | 2725 | ambient |
| P4 | baghouse | 4 | 0.5 | 1,200 | ambient |

**Enforcement Issue**

(a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment.*

(b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

**Recommendation**

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on January 19, 2000, with additional information received on March 1, 2000.

**Emission Calculations**

See pages 1 - 6 of 6 of Appendix A of this document for detailed emissions calculations.

**Potential To Emit**

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

| **Pollutant** | **Potential To Emit** (tons/year) |
|---|---|
| PM | 74.4 |
| $PM_{10}$ | 74.6 |
| $SO_2$ | 0.012 |
| VOC | 76.9 |
| CO | 1.72 |
| $NO_X$ | 2.05 |

| **HAPs** | **Potential To Emit** (tons/year) |
|---|---|
| Xylene | 0.430 |
| Toluene | 8.76 |

| HAPs | Potential To Emit (tons/year) |
|---|---|
| MEK | 5.60 |
| Glycol Ethers | 0.400 |
| Hexane | 0.937 |
| Cumene | 0.150 |
| Methanol | 0.010 |
| Benzene | 0.00004 |
| Dichlorobenzene | 0.00002 |
| Formaldehyde | 0.002 |
| Lead Compounds | 0.00001 |
| Cadmium Compounds | 0.00002 |
| Chromium Compounds | 0.00003 |
| Manganese Compounds | 0.00001 |
| Nickels Compounds | 0.00004 |
| TOTAL | 16.3 |

(a) The potentials to emit (as defined in 326 IAC 2-5.1-3) of PM and $PM_{10}$ are equal to or greater than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.1-3.

(b) Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

**Actual Emissions**

The following table shows the actual emissions from the source. This information reflects the 1998 OAM emission data.

| Pollutant | Actual Emissions (tons/year) |
|---|---|
| PM | 0.593 |
| $PM_{10}$ | 0.012 |
| $SO_2$ | 0.002 |
| VOC | 14.8 |

| Pollutant | Actual Emissions (tons/year) |
|---|---|
| CO | 0.08 |
| $NO_X$ | 0.400 |

No previous HAPs emission data have been received from the source.

**Limited Potential to Emit**

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

| | Limited Potential to Emit (tons/year) | | | | | | |
|---|---|---|---|---|---|---|---|
| Process/facility | PM | $PM_{10}$ | $SO_2$ | VOC | CO | $NO_X$ | HAPS |
| Surface Coating | 0.885 | 0.885 | 0.00 | 76.8 | 0.00 | 0.00 | 16.3 |
| Woodworking | 0.734 (28.2) | 0.734 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Welding | 0.118 | 0.118 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00007 |
| Combustion | 0.039 | 0.156 | 0.012 | 0.113 | 1.72 | 2.05 | 0.038 |
| Total Emissions | 1.78 (29.2) | 1.89 | 0.012 | 76.9 | 1.72 | 2.05 | 16.3 Single HAP <10 |

Note: The PM values in parentheses are the allowable emissions pursuant to 326 IAC 6-3-2.

**County Attainment Status**

The source is located in Elkhart County.

| Pollutant | Status |
|---|---|
| $PM_{10}$ | attainment |
| $SO_2$ | attainment |
| $NO_2$ | attainment |
| Ozone | maintenance |
| CO | attainment |
| Lead | attainment |

(a) Volatile organic compounds (VOC) and oxides of nitrogen ($NO_X$) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as maintenance for ozone. Therefore, VOC and $NO_X$ emissions were reviewed pursuant to the

requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Elkhart County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

**Source Status**

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited).

| **Pollutant** | **Emissions** (ton/yr) |
|---|---|
| PM | 6.41 |
| $PM_{10}$ | 6.41 |
| $SO_2$ | 0.013 |
| VOC | 29.7 |
| CO | 0.858 |
| $NO_X$ | 2.02 |

(a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.

(b) These emissions were based on the Technical Support Document for CP 039-5544 issued September 23, 1996:

**Proposed Modification**

PTE from the proposed modification due to changes in surface coating materials (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

| Pollutant | PM (ton/yr) | $PM_{10}$ (ton/yr) | $SO_2$ (ton/yr) | VOC (ton/yr) | CO (ton/yr) | $NO_X$ (ton/yr) |
|---|---|---|---|---|---|---|
| Proposed Modification | 0.00 | 0.00 | 0.00 | 47.1 | 0.00 | 0.00 |
| PSD or Offset Threshold Level | 250 | 250 | 250 | 250 | 250 | 250 |

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

**Part 70 Permit Determination**

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than one hundred (100) tons per year,

(b) a single hazardous air pollutant (HAP) is less than ten (10) tons per year, and

(c) any combination of HAPs is less than twenty-five (25) tons per year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAM inspector assigned to the source.

**Federal Rule Applicability**

(a) The four (4) storage tanks with capacities of 250, 250, 300 and 300 gallons are not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.110b, Subpart Kb) because each is less than 40 cubic meters in size.

(b) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), Subpart JJ since the source is limited below major source levels of ten (10) and twenty-five (25) tons per year for a single and combination of HAPs, respectively.

**State Rule Applicability - Entire Source**

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year for Elkhart County. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8) (Emission Statement Operating Year).

326 IAC 5-1 (Opacity Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

**State Rule Applicability - Individual Facilities**

326 IAC 2-1-3.4 (Construction and operating permit requirements: new source toxics control)

Since the source with the proposed change of materials will not emit a single hazardous air pollutant (HAP) at ten (10) tons per year or greater, or emit a combination of HAPs at twenty-five (25) tons per year or greater, the source is not subject to the requirements of this rule.

326 IAC 8-1-6 (New facilities: general reduction requirements)

This rule may apply to new facilities as of January 1, 1980. Since the potential VOC emissions from coating plastic, carpet, PVC and glass substrates are less than twenty-five (25) tons per year, 326 IAC 8-1-6 does not apply to this source. Any change or modification which would increase the potential to emit VOC to twenty-five (25) tons per year or more, shall obtain prior approval from IDEM, OAM.

326 IAC 8-2-9 (Miscellaneous Metal Coating Operations)

The chassis and floor, unit assembly and the final finish facilities coat metal and are not subject to this rule because the potential VOC emissions for coating metal are each less than fifteen (15) pounds per day. See page 1 of 6 TSD Appendix A for detailed calculations. Any change or modification which would increase the potential to emit VOC from coating metal at any of the facilities to fifteen (15) pounds per day or more, shall obtain prior approval from IDEM, OAM.

326 IAC 8-2-12 (Wood Furniture and Cabinet Coating)

The cabinets and mill, slide out assembly, unit assembly and the final finish facilities are subject to 326 IAC 8-2-12 (Surface Coating Emission Limitation-Wood Furniture and Cabinet Coating), because will have actual VOC emissions greater than fifteen (15) pounds per day. See page 1 of 6 of TSD Appendix A for detailed calculations for coating wood substrates.

Pursuant to this rule, the surface coating applied to wood furniture and cabinets shall utilize one of the following application methods:

Airless Spray Application
Air Assisted Airless Spray Application
Electrostatic Spray Application
Electrostatic Bell or Disc Application
Heated Airless Spray Application
Roller Coating
Brush or Wipe Application
Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

These facilities will be in compliance, because all the methods used (hand/wipe application, low pressure air atomization and aerosol can coating which is equivalent to airless spray system) are among those listed in the rule.

326 IAC 6-3-2 (Process Operations)

(a) The PM overspray emissions from the surface coating facilities are subject to 326 IAC 6-3-2 and shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

(b) The allowable particulate matter (PM) emission rate from the woodworking operations associated with cyclones P1, P2 and P3 shall not exceed 2.95, 2.95 and 0.551 pounds per hour, respectively, when operating at process weight rates of 1,224, 1,224 and less than 100 pounds per hour (0.612, 0.612 and less than 0.050 tons per hour). The allowable PM emission rates are calculated with the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The cyclones have to be in operation at all times in order to comply with these limits since the potential to emit before control for each cyclone of 3.8, 7.4 and 5.1 pounds per hour are greater than the allowable PM emission rates of 2.95, 2.95 and 0.551 pounds per hour.

(c) The back-up baghouse, known as P4, shall meet the allowable PM emission limit calculated with the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

(d) The PM from welding facilities are subject to 326 IAC 6-3-2 and shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour, and
P = process weight rate in tons per hour

**Air Toxic Emissions**

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

(a) This source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.

(b) See attached calculations for detailed air toxic calculations in Appendix A, on pages 2, 4 and 6 of 6.

**Conclusion**

The construction and operation of this travel trailer manufacturing source shall be subject to the conditions of the attached proposed New Source Construction and Minor Source Operating Permit 039-11784-00380.

# Indiana Department of Environmental Management
# Office of Air Management

## Technical Support Document (TSD) for a New Source Construction and Minor Source Operating Permit

**Source Background and Description**

| | |
|---|---|
| **Source Name:** | **Dutchmen Manufacturing, Inc.** |
| **Source Location:** | **305 Steury Avenue, Goshen, Indiana 46526** |
| **County:** | **Elkhart** |
| **SIC Code:** | **3792** |
| **Operation Permit No.:** | **MSOP 039-11784-00380** |
| **Permit Reviewer:** | **Mark L. Kramer** |

The Office of Air Management (OAM) has reviewed an application from Dutchmen Manufacturing, Inc. relating to the construction and operation of a travel trailer manufacturing source.

**Permitted Emission Units and Pollution Control Equipment**

The source consists of the following permitted emission units and pollution control device with unspecified changes in materials used for surface coating:

**Assembly Building**

(a) Woodworking operations consist of: three (3) band saws, one (1) chop saw, one (1) drill press, three (3) grinder benches, eighteen (18) mitre saws, one (1) double mitre saw, three (3) radial arm saws, two (2) routers, three (3) table saws and one (1) belt sander.

Chassis Frame with Floor Preparation

(b) One (1) woodworking and surface coating operation, equipped with a cyclone, P1, exhausting through vents V1 and V2, throughput: 1,125 pounds of preassembled frames per hour, 126 pounds of plywood per hour and 144 pounds of panelboard per hour, capacity: 1.2 travel trailers per hour.

Cabinets and Mill

(c) One (1) woodworking and surface coating operation, equipped with two (2) cyclones, known as P1 and P2, exhausting through vents V1 and V2, throughput: 154.8 pounds of wood per hour, 626.4 pounds of panelboard per hour, 43.2 pounds of plywood per hour, and 216 pounds of stiles per hour, capacity: 1.2 travel trailers per hour.

Slide-Out Assembly and Installation

(d) One (1) woodworking and surface coating operation, equipped with two (2) cyclones, known as P1 and P2, exhausting through vents V1 and V2, throughput: 28.8 pounds of Luan per

hour, 356.4 pounds of wood per hour, 82.8 pounds of panelboard per hour and 28.8 pounds of plywood per hour, capacity: 1.2 travel trailers per hour.

Prefinished Travel Trailers (Unit Assembly) Operation

(e) One (1) woodworking and surface coating operation, equipped with two (2) cyclones, known as P1 and P2, exhausting through vents V1 and V2, throughput: 432 pounds of wood per hour, 82.8 pounds of panelboard per hour and 126 pounds of plywood per hour, capacity: 1.2 travel trailers per hour.

**Final Finish Building**

Finished Travel Trailers

(f) One (1) woodworking and surface coating operation, equipped with a cyclone, known as P3, and one (1) stand-by baghouse, known as P4, exhausting through vents V3 through V5, throughput: 18.0 pounds of wood per hour and 9.0 pounds of panelboard per hour, capacity: 1.2 travel trailers per hour.

(g) Woodworking operations consist of: one (1) chop saw and (1) radial arm saw.

Welding

(h) One (1) MIG welding station, capacity: .354 pounds of wire per hour.

(i) Two (2) stick welding stations, capacity: 1.0 and 7.0 electrodes per hour.

(j) One (1) oxyacetylene flame cutting station, capacity: 0.167 inches per minute at a thickness of 0.375 inches.

**Stick and Tin Assembly Building**

(k) Six (6) radiant heaters, known as H1 through H5, H13, rated at 0.150 million British thermal units per hour each, exhausting through stacks H1 - H5 and H13 (formally known as H-14).

(l) Three (3) space heaters, known as H6 through H8, rated at 0.100 million British thermal units per hour each, exhausting through stacks H6 - H8.

(m) Four (4) space heaters, known as H9 through H12, rated at 0.225 million British thermal units per hour each, exhausting through stacks H9 - H11.

(n) Seven (7) space heaters, known as H14 through H20 (formally known as H1 - H7), rated at 0.100 million British thermal units per hour each, exhausting through stacks H14 through H20.

(o) Seven (7) space heaters, known as H21 through H27 (formally known as H8 - H14), rated at 0.225 million British thermal units per hour each, exhausting through stacks H21 - H27.

(p) Two (2) radiant heaters, known as H28 and H29 (formerly known as H15 and H16), rated at 0.150 million British thermal units per hour each, exhausting through stacks H28 and H29.

**Unpermitted Emission Units and Pollution Control Equipment**

The source also consists of the following unpermitted facilities/units:

**Stick and Tin Assembly Building** (Relocated from Maple City Plant)

(q) One (1) inside tote, installed in 1993, capacity: 330 gallons of adhesive.

(r) One (1) inside above ground storage tank, capacity: 250 gallons of hydraulic oil.

(s) One (1) outside above ground storage tank, installed in 1991, capacity: 250 gallons of diesel fuel.

(t) Two (2) outside above ground storage tanks, installed in 1991, capacity: 300 gallons of unleaded gasoline each.

**New Emission Units and Pollution Control Equipment**

There are no new facilities proposed at this source during this review process.

**Existing Approvals**

The source has been operating under previous approvals including, but not limited to, the following:

CP 039-5544-00380, issued September 23, 1996.

All conditions from previous approvals were incorporated into this permit.

**Stack Summary**

| Stack ID | Operation | Height (feet) | Diameter (feet) | Flow Rate (acfm) | Temperature (EF) |
|---|---|---|---|---|---|
| H1 - H5 | heaters | 22 | 0.25 | 500 | 200 |
| H6 - H8 | heaters | 22 | 0.83 | 500 | 150 |
| H9 - H11 | heaters | 22 | 0.83 | 500 | 235 |
| H13 | heater | 22 | 0.50 | 500 | 200 |
| H14 - H20 | heaters | 17 | 0.83 | 500 | 175 |
| H21 - H27 | heaters | 17 | 0.83 | 500 | 235 |
| H28 & H29 | heaters | 17 | 0.83 | 500 | 200 |
| V1 & V2 | surface coating | 21 | 1.95 | - | ambient |
| V3 - V5 | surface coating | 20 | 1.95 | - | ambient |
| P1 | cyclone | 20 | 0.83 | 2,000 | ambient |
| P2 | cyclone | 20 | 2.17 | 3,900 | ambient |
| P3 | cyclone | 12 | 2.17 | 2725 | ambient |
| P4 | baghouse | 4 | 0.5 | 1,200 | ambient |

**Enforcement Issue**

(a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment.*

(b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

**Recommendation**

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on January 19, 2000, with additional information received on March 1, 2000.

**Emission Calculations**

See pages 1 - 6 of 6 of Appendix A of this document for detailed emissions calculations.

**Potential To Emit**

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

| **Pollutant** | **Potential To Emit** (tons/year) |
|---|---|
| PM | 74.4 |
| $PM_{10}$ | 74.6 |
| $SO_2$ | 0.012 |
| VOC | 76.9 |
| CO | 1.72 |
| $NO_X$ | 2.05 |

| **HAPs** | **Potential To Emit** (tons/year) |
|---|---|
| Xylene | 0.430 |
| Toluene | 8.76 |

| HAPs | Potential To Emit (tons/year) |
|---|---|
| MEK | 5.60 |
| Glycol Ethers | 0.400 |
| Hexane | 0.937 |
| Cumene | 0.150 |
| Methanol | 0.010 |
| Benzene | 0.00004 |
| Dichlorobenzene | 0.00002 |
| Formaldehyde | 0.002 |
| Lead Compounds | 0.00001 |
| Cadmium Compounds | 0.00002 |
| Chromium Compounds | 0.00003 |
| Manganese Compounds | 0.00001 |
| Nickels Compounds | 0.00004 |
| TOTAL | 16.3 |

(a) The potentials to emit (as defined in 326 IAC 2-5.1-3) of PM and $PM_{10}$ are equal to or greater than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.1-3.

(b) Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

**Actual Emissions**

The following table shows the actual emissions from the source. This information reflects the 1998 OAM emission data.

| Pollutant | Actual Emissions (tons/year) |
|---|---|
| PM | 0.593 |
| $PM_{10}$ | 0.012 |
| $SO_2$ | 0.002 |
| VOC | 14.8 |

| Pollutant | Actual Emissions (tons/year) |
|---|---|
| CO | 0.08 |
| $NO_X$ | 0.400 |

No previous HAPs emission data have been received from the source.

**Limited Potential to Emit**

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

| | Limited Potential to Emit (tons/year) | | | | | | |
|---|---|---|---|---|---|---|---|
| Process/facility | PM | $PM_{10}$ | $SO_2$ | VOC | CO | $NO_X$ | HAPS |
| Surface Coating | 0.885 | 0.885 | 0.00 | 76.8 | 0.00 | 0.00 | 16.3 |
| Woodworking | 0.734 (28.2) | 0.734 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Welding | 0.118 | 0.118 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00007 |
| Combustion | 0.039 | 0.156 | 0.012 | 0.113 | 1.72 | 2.05 | 0.038 |
| Total Emissions | 1.78 (29.2) | 1.89 | 0.012 | 76.9 | 1.72 | 2.05 | 16.3 Single HAP <10 |

Note: The PM values in parentheses are the allowable emissions pursuant to 326 IAC 6-3-2.

**County Attainment Status**

The source is located in Elkhart County.

| Pollutant | Status |
|---|---|
| $PM_{10}$ | attainment |
| $SO_2$ | attainment |
| $NO_2$ | attainment |
| Ozone | maintenance |
| CO | attainment |
| Lead | attainment |

(a) Volatile organic compounds (VOC) and oxides of nitrogen ($NO_X$) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as maintenance for ozone. Therefore, VOC and $NO_X$ emissions were reviewed pursuant to the

requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Elkhart County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

**Source Status**

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited).

| **Pollutant** | **Emissions** (ton/yr) |
|---|---|
| PM | 6.41 |
| $PM_{10}$ | 6.41 |
| $SO_2$ | 0.013 |
| VOC | 29.7 |
| CO | 0.858 |
| $NO_X$ | 2.02 |

(a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.

(b) These emissions were based on the Technical Support Document for CP 039-5544 issued September 23, 1996:

**Proposed Modification**

PTE from the proposed modification due to changes in surface coating materials (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

| Pollutant | PM (ton/yr) | $PM_{10}$ (ton/yr) | $SO_2$ (ton/yr) | VOC (ton/yr) | CO (ton/yr) | $NO_X$ (ton/yr) |
|---|---|---|---|---|---|---|
| Proposed Modification | 0.00 | 0.00 | 0.00 | 47.1 | 0.00 | 0.00 |
| PSD or Offset Threshold Level | 250 | 250 | 250 | 250 | 250 | 250 |

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

**Part 70 Permit Determination**

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than one hundred (100) tons per year,

(b) a single hazardous air pollutant (HAP) is less than ten (10) tons per year, and

(c) any combination of HAPs is less than twenty-five (25) tons per year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAM inspector assigned to the source.

**Federal Rule Applicability**

(a) The four (4) storage tanks with capacities of 250, 250, 300 and 300 gallons are not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.110b, Subpart Kb) because each is less than 40 cubic meters in size.

(b) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), Subpart JJ since the source is limited below major source levels of ten (10) and twenty-five (25) tons per year for a single and combination of HAPs, respectively.

**State Rule Applicability - Entire Source**

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year for Elkhart County. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8) (Emission Statement Operating Year).

326 IAC 5-1 (Opacity Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

**State Rule Applicability - Individual Facilities**

326 IAC 2-1-3.4 (Construction and operating permit requirements: new source toxics control)

Since the source with the proposed change of materials will not emit a single hazardous air pollutant (HAP) at ten (10) tons per year or greater, or emit a combination of HAPs at twenty-five (25) tons per year or greater, the source is not subject to the requirements of this rule.

326 IAC 8-1-6 (New facilities: general reduction requirements)

This rule may apply to new facilities as of January 1, 1980. Since the potential VOC emissions from coating plastic, carpet, PVC and glass substrates are less than twenty-five (25) tons per year, 326 IAC 8-1-6 does not apply to this source. Any change or modification which would increase the potential to emit VOC to twenty-five (25) tons per year or more, shall obtain prior approval from IDEM, OAM.

326 IAC 8-2-9 (Miscellaneous Metal Coating Operations)

The chassis and floor, unit assembly and the final finish facilities coat metal and are not subject to this rule because the potential VOC emissions for coating metal are each less than fifteen (15) pounds per day. See page 1 of 6 TSD Appendix A for detailed calculations. Any change or modification which would increase the potential to emit VOC from coating metal at any of the facilities to fifteen (15) pounds per day or more, shall obtain prior approval from IDEM, OAM.

326 IAC 8-2-12 (Wood Furniture and Cabinet Coating)

The cabinets and mill, slide out assembly, unit assembly and the final finish facilities are subject to 326 IAC 8-2-12 (Surface Coating Emission Limitation-Wood Furniture and Cabinet Coating), because will have actual VOC emissions greater than fifteen (15) pounds per day. See page 1 of 6 of TSD Appendix A for detailed calculations for coating wood substrates.

Pursuant to this rule, the surface coating applied to wood furniture and cabinets shall utilize one of the following application methods:

Airless Spray Application
Air Assisted Airless Spray Application
Electrostatic Spray Application
Electrostatic Bell or Disc Application
Heated Airless Spray Application
Roller Coating
Brush or Wipe Application
Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

These facilities will be in compliance, because all the methods used (hand/wipe application, low pressure air atomization and aerosol can coating which is equivalent to airless spray system) are among those listed in the rule.

326 IAC 6-3-2 (Process Operations)

(a) The PM overspray emissions from the surface coating facilities are subject to 326 IAC 6-3-2 and shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

(b) The allowable particulate matter (PM) emission rate from the woodworking operations associated with cyclones P1, P2 and P3 shall not exceed 2.95, 2.95 and 0.551 pounds per hour, respectively, when operating at process weight rates of 1,224, 1,224 and less than 100 pounds per hour (0.612, 0.612 and less than 0.050 tons per hour). The allowable PM emission rates are calculated with the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The cyclones have to be in operation at all times in order to comply with these limits since the potential to emit before control for each cyclone of 3.8, 7.4 and 5.1 pounds per hour are greater than the allowable PM emission rates of 2.95, 2.95 and 0.551 pounds per hour.

(c) The back-up baghouse, known as P4, shall meet the allowable PM emission limit calculated with the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

(d) The PM from welding facilities are subject to 326 IAC 6-3-2 and shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour, and
P = process weight rate in tons per hour

**Air Toxic Emissions**

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

(a) This source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.

(b) See attached calculations for detailed air toxic calculations in Appendix A, on pages 2, 4 and 6 of 6.

**Conclusion**

The construction and operation of this travel trailer manufacturing source shall be subject to the conditions of the attached proposed New Source Construction and Minor Source Operating Permit 039-11784-00380.

## Appendix A: Emission Calculations
## Baghouse Operations

**Company Name:** Dutchmen Manufacturing, Inc.
**Address City IN Zip:** 305 Steury Avenue, Goshen, IN 46526
**MSOP:** 039-11784
**Plt ID:** 039-00380
**Reviewer:** Mark L. Kramer
**Date:** January 19, 2000

| Unit ID | Control Efficiency (%) | Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.) | Gas or Air Flow Rate (acfm.) | Emission Rate before Controls (lb/hr) | Emission Rate before Controls (tons/yr) | Emission Rate after Controls (lb/hr) | Emission Rate after Controls (tons/yr) |
|---|---|---|---|---|---|---|---|
| P1 | 99.0% | 0.002200 | 2000.0 | 3.8 | 16.52 | 0.038 | 0.17 |
| P2 | 99.0% | 0.002200 | 3900.0 | 7.4 | 32.21 | 0.074 | 0.32 |
| P3 | 99.0% | 0.002200 | 2725.0 | 5.1 | 22.51 | 0.051 | 0.23 |
| P4 | 99.0% | 0.000486 | 1200.0 | 0.5 | 2.19 | 0.005 | 0.02 |
| | | | | Total | 73.4 | | 0.734 |

**Methodology**

Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (sq. ft.) ((cub. ft./min.)/sq. ft.) (60 min/hr) (lb/7000 grains)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Emission Rate in lbs/hr (before controls) = Emission Rate (after controls): (lbs/hr)/(1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

### Allowable Rate of Emissions

| | Process Rate (lbs/hr) | Process Weight Rate (tons/hr) | Allowable Emissions (lbs/hr) | Allowable Emissions (tons/yr) | |
|---|---|---|---|---|---|
| P1 | 1224 | 0.612 | 2.95 | 12.9 | |
| P2 | 1224 | 0.612 | 2.95 | 12.9 | |
| P3 | 100 | 0.050 | 0.551 | 2.41 | (actual Process Weight Rate =27 lbs/hr |
| P4 | Backup | | | | |

**Methodology** Allowable Emissions = 4.10(Process Weight Rate)^0.67

# Appendix A: Emissions Calculations
## Natural Gas Combustion Only
## MM BTU/HR <100

**Company Name:** Dutchmen Manufacturing, Inc.
**Address City IN Zip:** 305 Steury Avenue, Goshen, IN 46526
**MSOP:** 039-11784
**Plt ID:** 039-00380
**Reviewer:** Mark L. Kramer
**Date:** January 19, 2000

| | Each | Total |
|---|---|---|
| | mmBtu/hr | mmBtu/hr |
| H1-H5 & H13 | 0.150 | 0.900 |
| H6 - H8 | 0.100 | 0.300 |
| H9 - H12 | 0.225 | 0.900 |
| H14 - H20 | 0.100 | 0.700 |
| H21 - H27 | 0.225 | 1.575 |
| H28 & H29 | 0.150 | 0.300 |
| | | 4.675 |

| Heat Input Capacity MMBtu/hr | Potential Throughput MMCF/yr |
|---|---|
| 4.675 | 40.95 |

Pollutant

| | PM* | PM10* | SO2 | NOx | VOC | CO |
|---|---|---|---|---|---|---|
| Emission Factor in lb/MMCF | 1.9 | 7.6 | 0.6 | 100.0 **see below | 5.5 | 84.0 |
| Potential Emission in tons/yr | 0.039 | 0.156 | 0.012 | 2.048 | 0.113 | 1.720 |

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).
See page 6 for HAPs emissions calculations.

# Appendix A: Emissions Calculations
## Natural Gas Combustion Only
## MM BTU/HR <100

## HAPs Emissions

**Company Name:** Dutchmen Manufacturing, Inc.
**Address City IN Zip:** 305 Steury Avenue, Goshen, IN 46526
**MSOP:** 039-11784
**Plt ID:** 039-00380
**Reviewer:** Mark L. Kramer
**Date:** January 19, 2000

HAPs - Organics

| | Benzene | Dichlorobenzene | Formaldehyde | Hexane | Toluene |
|---|---|---|---|---|---|
| Emission Factor in lb/MMcf | 2.1E-03 | 1.2E-03 | 7.5E-02 | 1.8E+00 | 3.4E-03 |
| Potential Emission in tons/yr | 4.300E-05 | 2.457E-05 | 1.536E-03 | 3.686E-02 | 6.962E-05 |

HAPs - Metals

| | Lead | Cadmium | Chromium | Manganese | Nickel |
|---|---|---|---|---|---|
| Emission Factor in lb/MMcf | 5.0E-04 | 1.1E-03 | 1.4E-03 | 3.8E-04 | 2.1E-03 |
| Potential Emission in tons/yr | 1.024E-05 | 2.252E-05 | 2.867E-05 | 7.781E-06 | 4.300E-05 |

Methodology is the same as page 5.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Company Name:** **Dutchmen Manufacturing, Inc.**
**Address City IN Zip:** **305 Steury Avenue, Goshen, IN 46526**
**MSOP:** **039-11784**
**Plt ID:** **039-00380**
**Reviewer:** **Mark L. Kramer**
**Date:** **January 19, 2000**

| Material | Density (lbs/gal) | Gallons of Material (gal/unit) | Maximum (unit/hour) | Weight % Xylene | Weight % Toluene | Weight % MEK | Weight % Glycol Ethers | Weight % Hexane | Weight % Cumene | Weight % Methanol | Xylene Emissions (tons/yr) | Toluene Emissions (tons/yr) | MEK Emissions (tons/yr) | Glycol Ethers Emissions (tons/yr) | Hexane Emissions (tons/yr) | Cumene Emissions (tons/yr) | Methanol Emissions (tons/yr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Chassis & Floor** | | | | | | | | | | | | | | | | | |
| Spray N'Go enamel (touch up) | 6.67 | 0.048 | 1.200 | 5.00% | 20.00% | 10.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.08 | 0.34 | 0.17 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oatey PVC cement (30234) | 7.59 | 0.029 | 1.200 | 0.00% | 0.00% | **2.50%** | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Cabinets & Mill** | | | | | | | | | | | | | | | | | |
| Mobibond MB34 | 9.49 | 0.011 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cyclo silicone C-33 | 5.92 | 0.014 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| IPS Weld-on Cement (#771) | 7.25 | 0.007 | 1.200 | 0.00% | 0.00% | 65.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.17 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cyclo Brake Cleaner (C-111) | 6.30 | 0.007 | 1.200 | 0.00% | 30.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Black ABS cement (30892) | 7.08 | 0.086 | 1.200 | 0.00% | 0.00% | 75.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 2.40 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oatey cleaner (30766) | 6.60 | 0.057 | 1.200 | 0.00% | 0.00% | 95.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 1.88 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rectorseal #5 | 11.42 | 0.029 | 1.200 | 0.00% | 0.00% | 0.00% | 23.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.40 | 0.00 | 0.00 | 0.00 |
| **Slide-out Assembly** | | | | | | | | | | | | | | | | | |
| Geocel 2300 sealant | 7.92 | 0.238 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mobibond MB34 | 9.49 | 0.004 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cyclo silicone C-33 | 5.92 | 0.010 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Unit Assembly** | | | | | | | | | | | | | | | | | |
| 901 BA Adhesive | 8.40 | 1.500 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Self-leveling Sealant 502 LS | 10.67 | 0.840 | 1.200 | 0.00% | 15.80% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 7.44 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Geocel 2300 sealant | 7.92 | 0.448 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oatey cleaner (30766) | 6.60 | 0.029 | 1.200 | 0.00% | 0.00% | 95.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.96 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dupont laquer thinner | 6.32 | 0.010 | 1.200 | 0.00% | 2.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mineral Spirits | 6.59 | 0.029 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Econotac Adhesive - #26 | 6.50 | 0.022 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 35.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.26 | 0.00 | 0.00 |
| Enerbond SF(Ener 45) | 10.01 | 0.020 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Surebond Sealant | 11.42 | 0.013 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Foam Cleaner | 7.99 | 0.020 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Final Finish** | | | | | | | | | | | | | | | | | |
| Geocel 2300 sealant | 7.92 | 0.143 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Geocel 2000 sealant | 8.34 | 0.113 | 1.200 | 7.00% | 0.00% | 0.00% | 0.00% | 0.00% | 3.00% | 0.00% | 0.35 | 0.00 | 0.00 | 0.00 | 0.00 | 0.15 | 0.00 |
| Bostik Supertak Adhesive (150724) | 5.60 | 0.029 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 40.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.34 | 0.00 | 0.00 |
| Touch N'Tone Enamel (55721) | 5.59 | 0.135 | 1.200 | 0.00% | 15.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.59 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cyclo silicone C-33 | 5.92 | 0.072 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1'AYD Spray Silicone 96 | 5.00 | 0.019 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 60.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.30 | 0.00 | 0.00 |
| Cyclo Brake Cleaner (C-111) | 6.30 | 0.027 | 1.200 | 0.00% | 30.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Glass Cleaner #40A | 8.30 | 0.017 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.80% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| Lacquer Thinner (39395) | 6.32 | 0.066 | 1.200 | 0.00% | 2.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mineral Spirits | 6.59 | 0.097 | 1.200 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total State Potential Emissions | | | | | | | | | Subtotal | | **0.43** | **8.76** | **5.60** | **0.40** | **0.90** | **0.15** | **0.01** |

| Material | Density (lbs/gal) | Gallons of Material (gal/unit) | Maximum (unit/hour) | Weight % MDI | Weight % | Weight % | Weight % | Weight % | Weight % | Weight % | MDI Emissions (tons/yr) | Emissions (tons/yr) | Emissions (tons/yr) | Emissions (tons/yr) | Emissions (tons/yr) | Emissions (tons/yr) | Emissions (tons/yr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Roof Assembly** | | | | | | | | | | | | | | | | | |
| Enerbond SF(Ener 45) | 10.01 | 0.020 | 1.200 | 6.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Note 10% of the maximum MDI content of 60% from MSDS was used to account for flash off factor.

**Total ALL HAPs** **16.3** tons/yr

**METHODOLOGY** HAPS emission rate (tons/yr) = Density (lbs/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

**Appendix A: Emissions Calculations**
**VOC and Particulate**
**From Surface Coating Operations**

**Company Name:** Dutchmen Manufacturing, Inc.
**Address City IN Zip:** 305 Steury Avenue, Goshen, IN 46526
**MSOP:** 039-11784
**Plt ID:** 039-00380
**Reviewer:** Mark L. Kramer
**Date:** January 19, 2000

| Material | Density (lbs/gal) | Weight % Volatile (H20 & Organics) | Weight % Water | Weight % Organics | Volume % Water | Volume % Non-Volatiles (solids) | Gal of Mat. (gal/unit) | Maximum (units/hour) | Pounds VOC per gallon of coating less water | Pounds VOC per gallon of coating | Potential VOC (pounds per hour) | Potential VOC (pounds per day) | Potential VOC (tons per year) | Particulate Potential (tons/yr) | lbs VOC/gal solids | Transfer Efficiency | Substate Coated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Chassis & Floor** | | | | | | | | | | | | | | | | | |
| Spray N'Go enamel (touch up) | 6.67 | 76.00% | 0.0% | 76.0% | 0.0% | 9.96% | 0.048 | 1.200 | 5.07 | 5.07 | 0.29 | 7.01 | 1.28 | 0.10 | 50.90 | 75% | Chassis/Metal |
| Oatey PVC cement (30234) | 7.59 | 80.00% | 70.0% | 10.0% | 64.0% | 25.00% | 0.029 | 1.200 | 2.11 | 0.76 | 0.03 | 0.63 | 0.12 | 0.00 | 3.04 | 100% | Pipes/PVC |
| **Cabinets & Mill** | | | | | | | | | | | **Subtotal** | **7.64** | **1.39** | **0.10** | | | |
| Mobibond MB34 | 9.49 | 60.00% | 0.0% | 60.0% | 0.0% | 40.00% | 0.011 | 1.200 | 5.69 | 5.69 | 0.08 | 1.80 | 0.33 | 0.00 | 14.24 | 100% | Cabinet/Wood |
| Cyclo silicone C-33 | 5.92 | 91.75% | 7.5% | 84.3% | 5.3% | 0.00% | 0.014 | 1.200 | 5.27 | 4.99 | 0.08 | 2.01 | 0.37 | 0.01 | n/a | 75% | Cabinet/Wood |
| IPS Weld-on Cement (#771) | 7.25 | 73.50% | 0.0% | 73.5% | 0.0% | 30.00% | 0.007 | 1.200 | 5.33 | 5.33 | 0.04 | 1.07 | 0.20 | 0.00 | 17.76 | 100% | Cabinet/Wood |
| Cyclo Brake Cleaner (C-111) | 6.30 | 99.60% | 36.0% | 63.6% | 34.3% | 0.00% | 0.007 | 1.200 | 6.10 | 4.01 | 0.03 | 0.81 | 0.15 | 0.00 | n/a | 75% | Cabinet/Wood |
| Black ABS cement (30892) | 7.08 | 78.00% | 0.0% | 78.0% | 0.0% | 22.00% | 0.086 | 1.200 | 5.52 | 5.52 | 0.57 | 13.68 | 2.50 | 0.00 | 25.10 | 100% | Pipes/PVC |
| Oatey cleaner (30766) | 6.60 | 99.00% | 0.0% | 99.0% | 0.0% | 0.00% | 0.057 | 1.200 | 6.53 | 6.53 | 0.45 | 10.73 | 1.96 | 0.00 | n/a | 100% | PVC/Wood |
| Rectorseal #5 | 11.42 | 23.00% | 0.0% | 23.0% | 0.0% | 77.00% | 0.029 | 1.200 | 2.63 | 2.63 | 0.09 | 2.19 | 0.40 | 0.00 | 3.41 | 100% | Cabinet/Wood |
| **Slide-out Assembly** | | | | | | | | | | | **Subtotal** | **32.29** | **5.89** | **0.01** | | | |
| Geocel 2300 sealant | 7.92 | 35.00% | 0.0% | 35.0% | 0.0% | 61.00% | 0.238 | 1.200 | 2.77 | 2.77 | 0.79 | 19.00 | 3.47 | 0.00 | 4.54 | 100% | Slide-out/Wood |
| Mobibond MB34 | 9.49 | 60.00% | 0.0% | 60.0% | 0.0% | 40.00% | 0.004 | 1.200 | 5.69 | 5.69 | 0.03 | 0.66 | 0.12 | 0.00 | 14.24 | 100% | Cabinet/Wood |
| Cyclo silicone C-33 | 5.92 | 91.75% | 7.5% | 84.3% | 5.3% | 0.00% | 0.010 | 1.200 | 5.27 | 4.99 | 0.06 | 1.44 | 0.26 | 0.01 | n/a | 75% | Slide-out/Wood |
| **Unit Assembly** | | | | | | | | | | | **Subtotal** | **21.09** | **3.85** | **0.01** | | | |
| 901 BA Adhesive | 8.40 | 44.00% | 0.0% | 44.0% | 0.0% | 55.00% | 1.500 | 1.200 | 3.70 | 3.70 | 6.65 | 159.67 | 29.14 | 0.00 | 6.72 | 100% | Roof/Wood |
| Self-leveling Sealant 502LS | 10.67 | 25.00% | 0.0% | 25.0% | 0.0% | 75.00% | 0.840 | 1.200 | 2.67 | 2.67 | 2.69 | 64.53 | 11.78 | 0.00 | 3.56 | 100% | Roof/Wood, Vinyl |
| Geocel 2300 sealant | 7.92 | 35.00% | 0.0% | 35.0% | 0.0% | 61.00% | 0.448 | 1.200 | 2.77 | 2.77 | 1.49 | 35.77 | 6.53 | 0.00 | 4.54 | 100% | Cabinet/Wood |
| Oatey cleaner (30766) | 6.60 | 99.00% | 0.0% | 99.0% | 0.0% | 0.00% | 0.029 | 1.200 | 6.53 | 6.53 | 0.23 | 5.46 | 1.00 | 0.00 | n/a | 100% | Trailer/Wood |
| Dupont laquer thinner | 6.32 | 100.00% | 0.0% | 100.0% | 0.0% | 0.00% | 0.010 | 1.200 | 6.32 | 6.32 | 0.08 | 1.82 | 0.33 | 0.00 | n/a | 100% | Trailer/Wood |
| Mineral Spirits | 6.59 | 100.00% | 0.0% | 100.0% | 0.0% | 0.00% | 0.029 | 1.200 | 6.59 | 6.59 | 0.23 | 5.50 | 1.00 | 0.00 | n/a | 100% | Trailer/Wood,Metal |
| Econotac Adhesive - #26 | 6.50 | 80.00% | 0.0% | 80.0% | 0.0% | 20.00% | 0.022 | 1.200 | 5.20 | 5.20 | 0.14 | 3.29 | 0.60 | 0.08 | 26.00 | 50% | Cabinet/Wood |
| Enerbond SF(Ener 45) | 10.01 | 0.00% | 0.0% | 0.0% | 0.0% | 100.00% | 0.020 | 1.200 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.26 | 0.00 | 75% | Cabinet/Wood |
| Surebond Sealant | 11.42 | 20.00% | 13.3% | 6.7% | 18.3% | 82.50% | 0.013 | 1.200 | 0.94 | 0.77 | 0.01 | 0.29 | 0.05 | 0.00 | 0.93 | 100% | Trailer/Wood |
| Foam Cleaner | 7.99 | 95.80% | 55.0% | 40.8% | 52.9% | 4.00% | 0.020 | 1.200 | 6.92 | 3.26 | 0.08 | 1.88 | 0.34 | 0.01 | 81.50 | 75% | Trailer/Carpet |
| **Final Finish** | | | | | | | | | | | **Subtotal** | **278.21** | **50.77** | **0.35** | | | |
| Geocel 2300 sealant | 7.92 | 35.00% | 0.0% | 35.0% | 0.0% | 61.00% | 0.143 | 1.200 | 2.77 | 2.77 | 0.48 | 11.42 | 2.08 | 0.00 | 4.54 | 100% | Trailer/Wood |
| Geocel 2000 sealant | 8.34 | 33.50% | 15.0% | 18.5% | 15.0% | 66.50% | 0.113 | 1.200 | 1.82 | 1.54 | 0.21 | 5.02 | 0.92 | 0.00 | 2.32 | 100% | Trailer/Wood |
| Bostik Supertak Adhesive (150724) | 5.60 | 90.00% | 0.0% | 90.0% | 0.0% | 10.00% | 0.029 | 1.200 | 5.04 | 5.04 | 0.18 | 4.21 | 0.77 | 0.02 | 50.40 | 75% | Trailer/Wood |
| Touch N'Tone Enamel (55721) | 5.59 | 65.00% | 0.0% | 65.0% | 0.0% | 13.11% | 0.135 | 1.200 | 3.63 | 3.63 | 0.59 | 14.13 | 2.58 | 0.35 | 27.72 | 75% | Trailer/Metal |
| Cyclo silicone C-33 | 5.92 | 91.75% | 7.5% | 84.3% | 5.3% | 0.00% | 0.072 | 1.200 | 5.27 | 4.99 | 0.43 | 10.34 | 1.89 | 0.05 | n/a | 75% | Trailer/Plastic, Wood |
| 1'AYD Spray Silicone 96 | 5.00 | 95.00% | 40.0% | 55.0% | 24.1% | 5.00% | 0.019 | 1.200 | 3.62 | 2.75 | 0.06 | 1.50 | 0.27 | 0.01 | 55.00 | 75% | Trailer/Carpet |
| Cyclo Brake Cleaner (C-111) | 6.30 | 99.60% | 36.0% | 63.6% | 34.3% | 0.00% | 0.027 | 1.200 | 6.10 | 4.01 | 0.13 | 3.12 | 0.57 | 0.00 | n/a | 75% | Trailer/Carpet |
| Glass Cleaner #40A | 8.30 | 100.00% | 70.0% | 30.0% | 70.0% | 1.00% | 0.017 | 1.200 | 8.30 | 2.49 | 0.05 | 1.22 | 0.22 | 0.00 | 249.00 | 75% | Trailer/Glass, Wood |
| Lacquer Thinner (39395) | 6.32 | 99.70% | 0.0% | 99.7% | 0.0% | 0.00% | 0.066 | 1.200 | 6.30 | 6.30 | 0.50 | 11.98 | 2.19 | 0.00 | n/a | 100% | Trailer/Plastic, Wood |
| Mineral Spirits | 6.59 | 100.00% | 0.0% | 100.0% | 0.0% | 0.00% | 0.097 | 1.200 | 6.59 | 6.59 | 0.77 | 18.41 | 3.36 | 0.00 | n/a | 100% | Trailer/Wood,Metal |
| | | | | | | | | | | | **Subtotal** | **81.34** | **14.85** | **0.42** | | | |
| | | | | | | | | | | | | | | | | | |
| **State Potential Emissions** | | | **Add worst case coating to all solvents** | | | | | | **No Controls** | | **Total** | **420.58** | **76.76** | **0.885** | | | |

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lbs/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

## Appendix A: Welding and Thermal Cutting

**Company Name:** Dutchmen Manufacturing, Inc.
**Address City IN Zip:** 305 Steury Avenue, Goshen, IN 46526
**MSOP:** 039-11784
**Plt ID:** 039-00380
**Reviewer:** Mark L. Kramer
**Date:** January 19, 2000

| PROCESS | Number of Stations | Max. electrode consumption per station | | EMISSION FACTORS * (lb pollutant / lb electrode) | | | | EMISSIONS (lb/hr) | | | | TOTAL HAPS (lb/hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WELDING | | (lbs/hr) | | PM = PM10 | Mn | Ni | Cr | PM = PM10 | Mn | Ni | Cr | |
| Submerged Arc | 0 | 0 | | 0.036 | | | | 0.000 | 0 | 0.000 | 0 | 0.0000000 |
| Metal Inert Gas (MIG)(ER5154) | 1 | 0.354 | | 0.0241 | 0.00003 | | 0.00001 | 0.009 | 0.000012 | 0.000 | 3.54E-06 | 0.0000156 |
| Stick (E7018 electrode) | 2 | 0.42 | | 0.0211 | | | | 0.018 | 0 | 0.000 | 0 | 0.0000000 |
| Tungsten Inert Gas (TIG)(carbon steel) | 0 | 0 | | 0.0055 | | | | 0.000 | 0 | 0.000 | 0 | 0.0000000 |
| Oxyacetylene(carbon steel) | 0 | 0 | | 0.0055 | | | | 0.000 | 0 | 0.000 | 0 | 0.0000000 |

| | Number of Stations | Max. Metal Thickness Cut | Max. Metal Cutting Rate | EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick) | | | | EMISSIONS (lbs/hr) | | | | TOTAL HAPS (lb/hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FLAME CUTTING | | (in.) | (in./minute) | PM = PM10 | Mn | Ni | Cr | PM = PM10 | Mn | Ni | Cr | |
| Oxyacetylene | 1 | 0.375 | 0.167 | 0.1622 | 0.0005 | 0.0001 | 0.0003 | 0.001 | 0.000 | 0.000 | 0.000 | 0.0000003 |
| Oxymethane | 0 | 0 | 0 | 0.0815 | 0.0002 | | 0.0002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.0000000 |
| Plasma | 0 | 0 | 0 | | | | | 0.000 | 0.000 | 0.000 | 0.000 | 0.0000000 |

| EMISSION TOTALS | PM = PM10 | Mn | Ni | Cr | Total HAPs |
|---|---|---|---|---|---|
| Potential Emissions lbs/hr | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 |
| Potential Emissions lbs/day | 0.64 | 0.00 | 0.00 | 0.00 | 0.00 |
| Potential Emissions tons/year | **0.117668** | 0.000054 | 0.000000 | 0.000016 | 0.000070 |

METHODOLGY

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column. Consult AP-42 or other reference for different electrode types.
Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)
Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)
Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day
Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/day x 1 ton/2,000 lbs.
Plasma cutting emission factors are from the American Welding Society study published in Sweden (March 1994).
Welding and other flame cutting emission factors are from an internal training session document.
See AP-42, Chapter 12.19 for additional emission factors for welding.